

Appl. No.: 09/448,175
Amdt. dated: 3/16/2006
Reply to Office Action of October 17, 2005

REMARKS/ARGUMENTS

Upon entry of the instant amendment, claims 1, 3-5, and 7-9 are pending. Claim 2 was previously cancelled. Claim 6 was previously withdrawn. The applicant notes with appreciation the allowance of claims 1, 3, and 7. It is respectfully submitted that upon consideration of the remarks below, the application is in condition for allowance.

DRAWING OBJECTION

An objection has been made to Fig. 5 based upon the Examiner's suggestion to change the exponent of the multiplication factor. The applicant respectfully traverses this objection. In particular, the Examiner suggested changing the exponent of the multiplication factor from $-j2\pi k_0 m$ to $-j\omega n$.¹ The exponent $-j\omega n$, as set forth on page 7 of the specification, relates to the general case. However, in accordance with the present invention, the input twiddle circuit is illustrated in Fig. 6. As indicated on page 4, lines 27-29, the exponent for the complex modulator is $-j2\pi k_0 m$, shown on Fig. 5 is correct and represents the present invention. The Examiner's attention is directed to page 8 of the specification which describes the input twiddle as providing an alternating $+1$ or -1 factor depending on the stacked shift factor k_0 selected. Thus, the Examiner is respectfully requested to reconsider and withdraw the drawing objection.

CLAIM REJECTIONS - 35 U.S.C. § 112

Claims 4, 5, 8, and 9 have been rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. With respect to claims 4 and 5, the Examiner states that there is no support in the specification which discloses an input modulator for providing a multiplication factor of -1^m . The Examiner's attention is respectfully directed to page 8, lines 5-7 ("The input twiddle circuit provides a ± 1 factor for the multiplicative factors as discussed above"). As mentioned above, the reference to the exponent of $-j\omega n$ on page 7, lines

¹ I understand the request to be $-j\omega n$.

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3-14, relates to the general case. As set forth on page 8, the input modulator provides a + or -1 factor to the input circuit. Accordingly, the Examiner is respectfully requested to reconsider and withdraw this rejection.

With respect to claims 8 and 9, the Examiner indicated that the specification does not provide support for the limitation "set frequency analyzer figurative combined said plurality of input signals ..." With respect to this rejection, claims 8 and 9 have been amended to recite a frequency synthesizer for synthesizing a plurality of input signals. It is respectfully submitted that a frequency synthesizer is clearly supported in the specification. The Examiner's attention is respectfully directed to page 4, line 27 ("Briefly, the present invention relates to a discrete Fourier transform (DFT) filterbank with stackshift capability, configured, for example, as an analyzer, but equally applicable to a *synthesizer, and implemented as a polyphase filter.*") The Examiner's attention is also directed to page 5, lines 28, through page 6, line 2 ("Although the principles of the invention are described and illustrated herein, with respect to a frequency analyzer, as is generally known in the art, such principles are also applicable to DFT filter banks implemented as **frequency synthesizers**. All such embodiments are intended to be covered by the scope of the appended claims.") The Examiner's attention is also directed to Fig. 1b which


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generally illustrates a frequency synthesizer. For these reasons, the Examiner is respectfully requested to reconsider and withdraw this rejection.

Respectfully submitted,

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